

Chapter 17

ETHICS IN OSTEOLOGY

ETHICS IS THE STUDY OF STANDARDS OF CONDUCT and moral judgment. Ethics also refers to any system of values that specifies a code of conduct. There are multiple human value systems, however, each with its own notions of what is considered right and wrong. These notions are cultural constructs, so what might be ethical for a scientist, for example, might be unethical for a religious leader, and vice versa. Different ethical systems collide across the spectrum of osteological endeavors—from the forensic, to the archaeological, to the paleontological. Historical perspectives on the subject of ethics in human osteology are provided by Walker (2008a), Alfonso and Powell (2007), Turner (2005), and Ubelaker (2000).

Professionals who study human skeletal remains are frequently called on to make judgments about ethics. For some osteological issues there are no easy answers and no prescribed codes of conduct to guide the practitioner. For most issues, however, ethical guidance can be found. This chapter examines some of the ethical standards particular to osteology.

Human osteologists are routinely called on to practice in the glare of the media spotlight and within legal, political, social, and economic arenas where science may be misconstrued and misrepresented. Whether the issue is the number of perished individuals in the Branch Davidian compound at Waco (Owsley et al., 1995), the nature of trauma to the soldiers who died with Custer at the Little Big Horn (Scott et al., 2002), or the ancestry of an individual who died thousands of years ago at Kennewick (Burke et al., 2008), the human osteologist is obliged to be guided by facts and the scientific approach rather than by speculation, superstition, economics, preconception, or political expediency.

17.1 Ethics and the Law

Ethical behavior and legal or law-abiding behavior are not necessarily synonymous. However, because of the often high social costs of unethical behavior and the potential social benefits of ethical behavior, guidelines for ethical behavior often overlap with the legal dictates. The student of osteology is advised to become familiar with osteologically relevant laws. For instance, for an osteologist working in the United States, in the state of California, these laws include:

- NAGPRA: the Native American Graves Protection and Repatriation Act of 1990.
- ARPA: the Archaeological Resources Protection Act of 1979.
- CEQA: the California Environmental Quality Act.

Laws offer general guidance as to what must — *at a minimum* — be done, as well as what must definitely *not* be done in a given situation. Laws offer institutions and individuals a neatly specified minimum course of action which, when followed, allows the individual (or institution) to stay on the right side of the law and to claim that they have done everything legally required of them. Keep in mind that laws usually specify minimal requirements, not ideal courses of action or even best practices. Laws often fall short of specifying what the ethically (or professionally) most appropriate course of action should be.

To illustrate this point, we can take an example from archaeology. When archaeologists working for a cultural resource management (CRM) firm encounter human remains during excavation in California, they are legally obligated to contact the “Most Likely Descendent” (or MLD) as defined in California statute. The archaeological team may also be guided by ethics, such as those outlined in Walker (2008a), and may wish to go beyond the law and create working relationships with the MLD or other interested or potentially impacted parties prior to any excavation. Incorporation of multiple viewpoints before or after the discovery of skeletal remains may not be required by law, but it is an ethically, politically, economically, and logistically advantageous approach, and one that may also bring benefits ranging from continued research in the region to the integration of ethnohistorical data into the interpretive process.

17.2 Respecting the Dead: Appropriate Individual Behavior

The most elemental and most controversial part of working with the dead involves the physical handling and care of their remains. Many cultures, such as the Navajo and Maori, have taboos against their members even touching the dead. Other cultures, such as Orthodox Jews and traditional Chinese, prohibit the dissection of the whole body. For hundreds of years Western Medicine was held back by the Christian belief that the body must remain whole and uncut in preparation for the Resurrection.

Each human, each student, and each professional will bring with them their own beliefs about how bones relate to what was a once-living person. Respect is a subjective concept and one which can be difficult to define when applied to multicultural collections of human remains. Even when the identity and cultural background of the remains are unknown, there are commonly accepted ethical ways of approaching how they are treated. Chief among these is comporting oneself in a respectful manner when in the presence of the dead. Any conduct that is disrespectful in a graveyard will be just as offensive in the presence of the remains you are working with.

Some cultures request the use of gloves to create a barrier between the bones and those who handle them. Covering and/or placing the remains into storage when they are not in use is both respectful and a safe practice. Markers used during analysis can be temporary, for example — teflon ribbon and polytetrafluoroethylene (PTFE) tape both make use of static cling rather than adhesives (Cassman and Odegaard, 2007).

17.3 Speaking for the Dead: Ethics in Forensic Osteology

Human skeletal remains often figure prominently in legal matters. Osteologists are routinely asked to identify skeletal remains — to determine whether they are human and, if so, to determine the age, sex, identity, and antiquity of the remains. Information is provided on how these determinations may be made for bony remains in Chapter 18. Sometimes the osteologist is asked by law-enforcement representatives to make identifications, a report is filed (Chapter 16), and the matter ends there. On occasion, however, the osteologist becomes more deeply enmeshed in the legal system.

In many countries, law is practiced in an adversarial system in which prosecuting and defense

attorneys and their teams square off in courts of law. There are often serious questions of criminality or inheritance involving identification of the deceased. The stakes may be high. In such legal affairs, osteologists may be retained for their expertise and testimony by either side. For these and other reasons, the American Academy of Forensic Sciences has recognized physical anthropology as one of its 11 primary disciplines and provides ethical guidelines required to be adhered to by its members.

17.3.1 Boundaries of Evidence

In all osteological work, but particularly in forensic osteology, it is important for the analyst to keep two things clearly in mind at all times. First, any conclusion drawn in an osteological report must be defensible. In other words, the osteologist must prepare for a challenge by employing the most sound and up-to-date analytical methods available. Second, the osteologist should always avoid stepping beyond the boundaries set by the osteological evidence itself. In other words, he or she is an expert in osteology and not necessarily an expert in criminalistics, pathology, toxicology, engineering, or detective work.

The forensic osteologist must always report and testify within the bounds of the bony evidence and according to the principles of the scientific discipline that he or she represents. The osteologist should explicitly draw the attention of all concerned parties to limitations of the evidence itself and to the uncertainties associated with the identifications that have been performed.

One example illustrates the tragic toll that can be taken by a failure to observe these basic rules. The Vietnam War and the associated conflict in Southeast Asia resulted in the deaths of hundreds of thousands of people, among whom were American military personnel. The Americans who never returned, and whose bodies were not accounted for, were listed as MIA (missing in action). Thirteen men aboard an American AC-130 gunship shot down over Laos in 1972 were counted among the MIAs. Over ten years later an excavation at the crash site recovered 50,000 pieces of bone; the largest bone was 13 cm long, and most fragments had a maximum dimension of around 1 cm. After analysis by the U.S. Army, it was announced that positive identifications had been made on anatomy alone, and that all 13 men had been accounted for by these bone fragments. The skeletal remains were then forwarded to the families for burial. Relatives of the crew members pressed the issue of identification, and an independent investigation of these bones was made. It became clear that the analysis, although done by professional osteologists, had made conclusions about age, sex, race, and individuation that went far beyond the evidence (Getlin, 1986).

Science, fortunately, is self-correcting. In cases like this one the evidence can be examined by several investigators and faulty analysis is thereby exposed. In the meantime, however, the lives of many people can be deeply affected by the conclusions of the osteologist, who clearly has a responsibility to respect the limits of the hard evidence.

17.3.2 The Expert Witness

Witnesses in most court proceedings are sworn to tell the truth, the whole truth, and nothing but the truth. Expert witnesses, including forensic osteologists, must also adhere to these rules. See Komar and Buikstra (2008), Feder and Houck (2008), and Steadman (2009; Section II, Legal Considerations of Forensic Anthropology Casework in the United States) for further details on expert testimony, and Haack (2003) for an overview of science in the courts. Testimony by expert witness scientists is valued by courts of law throughout the world, although different judicial systems handle experts in different ways. For example, in Germany the expert witness is called by the court, whereas in the United States expert witnesses are often retained by lawyers on either side of a case. Testimony by scientists may have dramatic impact on the outcome of a judicial proceeding, particularly when their testimony is seen as ethical and articulate, and the testimony is given by a person expert in his or her discipline. Hollien (1990) observes that several major

problems surround scientists serving as expert witnesses. Among the most important are the lack of training of most scientists for the courtroom setting, the great variance in the qualifications of “experts” admitted into the courtroom, and the pressures upon the scientist, both overt and subtle, to adopt an advocacy position for the side paying the bills. For individual osteological expert witnesses who are ethical, well-trained, experienced, and who stay within the boundaries imposed by the evidence, none of these problems should be significant. Unfortunately, history has shown that not all experts have demonstrated these attributes. Hiss et al. (2007) discuss the damage that can be done by scientists who agree to serve as expert witnesses despite lacking the requisite education, training, and/or practice. Giannelli and McMunigal (2007) review the damage that has been done by expert witnesses with prosecutorial biases.

Different courts rely on different standards for admitting scientific evidence. For 70 years, U.S. state and federal courts relied primarily on the “*Frye* test” for determining the admissibility of opinions by expert witnesses. That test was named after a landmark 1923 decision that held that expert testimony must be based on a well-recognized scientific principle or discovery that is “sufficiently established to have gained general acceptance in the particular field in which it belongs.” In 1993, the U.S. Supreme Court ruled, in the *Daubert v. Merrill Dow Pharmaceuticals* decision, that the *Frye* test was superseded by Rule 702 of the 1975 Federal Rules of Evidence (FRE). At the time of the *Daubert* decision, FRE Rule 702 stated that,

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

In the 1993 *Daubert* decision, the Court stated that an opinion or conclusion qualifies as “scientific knowledge” if it is the product of sound scientific methodology. The Court provided a five-point test (the “*Daubert* standard”) for determining the soundness of scientific methodology and the admissibility of expert testimony (Table 17.1).

Since the original 1993 *Daubert* decision, two additional cases on expert witnesses have been decided by the U.S. Supreme Court. Together with the *Daubert* decision, these decisions form the “*Daubert* standard” (or “*Daubert* trilogy”). The 1997 *General Electric v. Joiner* decision requires that scientific expert witnesses must explain how their methodology bridges the gap between evidence and conclusions, and the 1999 *Kumho Tire v. Carmichael* decision addressed the lack of distinction in FRE Rule 702 between scientific and technical knowledge (Grivas and Komar, 2008). While the *Daubert* standard is followed in all U.S. federal courts and more than half of the states, the *Frye* test is still the legal standard in many states, including California, Florida, Illinois, New York, Pennsylvania, and Washington (Giannelli and Imwinkelried, 2007).

The late American physical anthropologist and expert witness Dr. Louise Robbins (Hansen, 1993) serves as an example of why courts need to have an objective standard such as the *Daubert* standard against which the validity of expert scientific testimony can be judged. Robbins was a self-appointed “expert” in footprint identification who testified at numerous trials about her abilities to individuate people based on impressions left by their shoes, socks, or bare feet. She claimed that her techniques allowed her to tell whether a person made a particular print by examining any other shoes belonging to that individual. She stated that footprints were better indicators for identifying people than fingerprints. Other expert witnesses testified on her behalf, and against her, during a forensic career that spanned a decade and that resulted in many convictions. Only years later, after her death, were her techniques and conclusions exposed. Physical anthropologist Owen Lovejoy of Kent State University noted, “She may well have believed what she was saying, but the scientific basis of her conclusions was completely fraudulent” (Hansen, 1993: 66).

To her own eyes, and to the eyes of the attorneys who retained her, Dr. Robbins was acting in a professional and ethical manner. In the eyes of other scientists, she was unethical. In the end, her conclusions were shown to be unreliable, but years of litigation were involved, and years of incarceration resulted from convictions aided by her interpretations.

Forensic experts often disagree, and not always because one of them is unethical or untrained. Nordby (1992: 1116) asks, “How can we understand the grounds for genuine disagreement between two honest, qualified forensic experts?” He argues that we must distinguish between

seeing and observing. We all see, but we observe different things based on the contexts of our knowledge, beliefs, values, and goals. Nordby argues convincingly that it is the role of the expert witness to refine the context of observation based on expert understanding, always examining hidden observational expectations that may influence supplied interpretations. The expert must always be self-critical and always ready to defend what may turn out to be the only supportable conclusion—the conclusion of “I don’t know.” The expert supplies good reasons to support that opinion. Nordby (1992: 1124) concludes: “Both knowing and not knowing are informed positions reached by careful application of scientifically defensible methods. When the results of those methods do not allow us to rationally prefer one conclusion over an alternative, we must settle for knowing *why* we do not know.”

<u>Guidelines from the <i>Daubert</i> decision</u>	<u>Guidance from the <i>Kumho</i> decision</u>
Content of testimony must:	1. Expert witnesses can develop theories based on their observations and experience and then apply those theories to the case before the court.
1. Be testable and have been tested through the scientific method.	2. All forms of expert witness testimony should be evaluated with the same level of rigor.
2. Have been subject to peer review.	3. The <i>Daubert</i> standards are flexible guidelines that may not be applicable in every instance of expert witness testimony.
3. Have established standards.	
4. Have a known or potential error rate.	
5. Have widespread acceptance by the relevant scientific community.	

Table 17.1 U.S. standards for the admissibility of expert testimony. From Grivas and Komar (2008).

17.4 Caring for the Dead: Considerations in the Curation of Remains

The concept of respectful curation is not new to museums, but the respectful storage of human remains within a nonreligious space is something that is relatively new in the scope of human history. As a result, numerous social, cultural, and political groups are still adjusting to this new reality. Guidelines for respectful long- and short-term storage of human remains in nonreligious, institutional settings are now beginning to be formulated at the state, national, and international levels, as well as by museums, universities, and tribal groups. As inflammatory rhetoric is gradually eclipsed by thoughtful discussion of the issue from a more comprehensive set of viewpoints, the importance of accommodating both scientific investigation and traditional belief systems is becoming clear. As Larsen and Walker (2005: 116) note, “Crucial in the discussion is the fact that there are no *inherent* conflicts between the keeping of skeletal collections and respect for the dead.” The issue is far from resolved, but several points of agreement are emerging.

Human remains should be kept in a secure facility, out of the public eye. Access should be restricted, limited to museum staff or institutional caretakers, tribal representatives, and scholarly researchers. All research conducted on human remains should be carried out in accordance with the highest professional standards. When possible, accommodations should be made for the spiritual needs of descendant communities. Offerings by these communities of food, herbs, or pollen are common, and may occur as part of ceremonies that can involve smudging (the burning of herbs). These offerings and ceremonies are best performed in a separate, ventilated room to minimize the impact on other remains.

For some cultures, keeping all parts of an individual’s remains together is important. In any case, remains from only one individual should be kept in a unit of storage (*eg.*, tray or drawer); do not commingle the remains of different individuals. Maintain, to the extent possible, the interconnected nature of an individual’s burial: keep grave goods together with the remains of the individual where possible, and ensure easy access to the excavation records that document the details of the burial.

When labeling remains or applying any sort of consolidant or preservative to the remains (Chapter 16), be sure to use methods and materials that can be reversed. The potential for removability is important not only to future research, destructive testing, and conservation work, but it may also become important to descendant communities if there comes a time that the remains are returned to them.

In what is perhaps the best example of cooperation and mutual accommodation to date, the Chumash Indians of southern California and the late Phillip Walker worked together to forge a mutually beneficial solution. Walker (2008a) describes the building of a separate facility—a subterranean ossuary—to house Chumash ancestors' remains. The ossuary provides a safe resting place for the remains within ancestral Chumash territory, and gives the Chumash control over their own dead, within the scholarly context of a university. The ossuary also provides for the long-term care and preservation of the remains, and scientific research on the remains is allowed to continue under the supervision of their descendants. Larsen and Walker (2005) describe a similar arrangement with the Stillwater Marsh remains from Nevada. From the very outset of the work there, all stakeholders (local, state, and federal authorities; archaeologists; physical anthropologists; Fallon-Paiute Shoshone, the local tribe; and the Nevada State Museum) worked together to determine the proper treatment, study, and final disposition of the remains. The agreement that was forged by this cooperation allowed for the scientific study of the remains prior to their repatriation to the tribe. The agreement also made provisions for future scientific study of the remains, by specifying that a subterranean concrete burial chamber should be built to provide for long-term storage and access.

17.5 Custody of the Dead: “Repatriation” and the U.S. Native American Graves Protection and Repatriation Act

There is a stark contrast between the widely accepted and easily delineated ethical and legal guidelines for the osteologist working in a forensic setting and the ambiguities of ethics and law that involve the osteologist working in an archaeological setting. Evidence, logic, reason, and the scientific method are all held in high esteem in the forensic realm. Normally, when claims of entitlement enter the legal system, there is rarely any attempt to “balance” scientific and spiritual evidence—the former takes precedence. This was traditionally the case in the realm of scientific archaeology. Now, however, the situation involving human remains from archaeological contexts throughout the world has become complex, fluid, ambiguous, politicized, and confusing due to the promulgation of laws that aim to redress what are seen as religious injustices undertaken in the name of science. It is necessary to examine the causes for this situation and to consider some of its implications for osteological research involving human remains.

17.5.1 Ethics in Collision: Respecting the Living

Research in human osteology necessarily involves the study of hard tissues that are the tangible remains of once-living individual people. It comes as no surprise, then, that this practice stirs deep emotions in many living people, causing them to take objection to osteological excavation and research. This is nothing new—anatomical study of the deceased has been controversial from its very inception. Early anatomists were forced to retrieve and dissect their cadavers in secrecy. Today, as every first-year medical student knows, remains of the dead are vital resources for teaching the living. So it is in osteology.

Death has a high emotional value, as indicated by the fact that both modern and prehistoric humans have developed a wide range of customs and rituals for dealing with it—customs and rituals that change through time. Archaeologists and physical anthropologists have learned, and continue to learn, about past human mortuary practices by excavating skeletal remains. As out-

lined elsewhere in this book, careful analysis of the bones themselves has led to insights into the diet, living conditions, population structure, genetic relationships, health, and evolution of humans in both the recent and remote past. Thus, the emotive power of death is combined with the informational potential of human bones to form a combustible mix in the modern world, resulting in debates over human skeletal remains, and posing ethical dilemmas for practicing osteologists and archaeologists.

In North America and Australia, large populations of indigenous people met European explorers several hundred years ago. Subsequent to this contact, both continents saw the decline — and sometimes the extinction — of native peoples and their cultural heritage as European colonization proceeded. Native Australian and American survivors of these invasions suffered and continue to suffer great injustices. A callous disregard for surviving native people has sometimes been demonstrated by developers, museum workers, government officials, and anthropologists in the recovery and disposition of the skeletal remains of these aboriginal peoples. A double-standard has sometimes been applied in the disturbance and subsequent treatment and disposition of European versus indigenous skeletal remains (McGuire, 1989; Hubert, 1989).

In Israel, ultraorthodox Jews have sought to restrict archaeological research. In New York, African-Americans have insisted that skeletal remains of slaves only be studied by African-American osteologists. Archaeological excavation and analysis of skeletal remains have been seriously curtailed and even stopped at the insistence of some Native American and Australian groups who have used the issue as a forum from which to express their far more wide-ranging grievances. The question of excavation and post-excavation handling and disposition of osteological remains has rapidly gathered considerable symbolic importance to many people. In some regions, research into prehistory has suffered setbacks, with excavations being halted, cultural and skeletal material reburied. There is no better way to illustrate and explore the ethical issues of excavation, analysis, and reburial of human skeletal remains than to present a case history (for additional views, see Meighan, 1992; Klesert and Powell, 1993; Goldstein and Kintigh, 1990; Jones and Harris, 1998; Webb, 1987; Williams, 2001; and Zimmerman, 1987a, b, 1989, 1997).

Just over 600 years ago, long before Columbus explored the “New World,” a fortified village site at Crow Creek, on what is now the Sioux Indian Reservation in South Dakota, was inhabited by nearly 1,000 Native Americans. This prehistoric, probably Arikara, village was attacked by a neighboring tribe, probably a Siouan group, and nearly 500 of the inhabitants killed. Although there is no historic record of this event, human skeletal remains documenting the massacre were discovered eroding out of the site in 1978 (Willey and Emerson, 1993). After three years of negotiations, an agreement was reached among the Sioux (Lakota, Dakota, and Nakota tribes on whose land the site was located), the U.S. Army Corps of Engineers, the project archaeologists, and the Arikara (the most likely descendents of the inhabitants of the village).

Analysis of the huge skeletal sample excavated at Crow Creek was limited by the amount of time available before the remains were placed in gold-painted, concrete coffins and reburied. While these were seriously suboptimal conditions for scientific research, the alternative was no excavation at all. The project osteologist, P. Willey of the University of Tennessee, summarized the situation as follows:

Only five months were permitted for the analysis, and I and the other physical anthropologists did as complete a job as we could. As the analysis proceeded, however, research questions came up which we could not pursue answers to within the period of time designated for the study. Continuing analyses of the information obtained from our study of the bones have pointed us in even more productive directions, yet the bones were returned to the Sioux Tribal Council as required by contract. Crow Creek is a unique site. The massacre offers an extremely rare opportunity to study the sample of a population at one point in time. Few other collections exist that are so potentially revealing as the one from Crow Creek concerning the diseases a prehistoric people lived with. Crow Creek is also a crucial site for studies of prehistoric stress and biological affinities with other populations.

Indians living today stand to benefit from our conclusions. Additional study of the remains might aid Native Americans further. Examples of the applications of our analyses include determina-



Figure 17.1 The Crow Creek massacre bone bed.

tions of biological relationships which support Indian land claims and understandings of prehistoric disease which could alleviate suffering among present-day Native Americans. If our studies of disease could result in understandings which saved just one child's life, then surely retaining skeletons for complete study is warranted. When we all stand to benefit, the interests of one ethnic group should not be permitted to stand in the way. We must be able to do the most complete and comprehensive study of all human skeletons of all human groups. (Willey, 1981:26)

The issue of excavation, analysis, and reburial stands out clearly at Crow Creek, but it goes far beyond this one occurrence. Some Native Americans have claimed that all archaeological research is racist and in violation of the sacred nature of prehistoric sites. Some archaeologists have responded by reburying excavated remains, or not excavating at all, as a means of lessening tensions or securing contracts. Several archaeologists and physical anthropologists have gone so far as to sign binding legal agreements to rebury any bone material (including nonhuman bones) on the spot without analysis, to bury all photographs and negatives made during the research, and to rebury any artifacts found in the vicinity of the skeletal remains. Skeletal samples have been taken from museum collections and reburied, a practice some physical anthropologists have likened to the destruction of single-copy manuscripts.

Many physical anthropologists have actively opposed efforts to rebury skeletal material, probably because these scientists are most aware of the potential information in these remains and are most sensitive to how this information is lost through reburial. Jane Buikstra, a physical anthropologist, has addressed several misconceptions that have characterized the issue (Buikstra, 1981a, 1983, 2006). European-American archaeologists have been accused of “never digging up their own ancestors,” in effect practicing a kind of archaeological apartheid. As Buikstra notes, the fact that a mostly white set of professional archaeologists study a set of mostly aboriginal bones in North America and Australia is not a manifestation of racism. From the excavation of remains of white frontiersmen in Wyoming (Gill et al., 1984; see Chapter 15) to the analysis of remains from

17th- and 18th-century graves of European whalers on Spitsbergen (Maat, 1981, 1987), archaeologists and physical anthropologists routinely work on skeletal remains associated with recent Western culture. In fact, the largest and best-studied skeletal series in use by physical anthropologists (the Hamann-Todd collection) is composed of mostly European-American and African-American individuals from medical school dissections at Case Western Reserve University. Many of these skeletons come from known, named, specific individuals whose religion is often recorded. Furthermore, some of the skeletal sexing and aging techniques used most widely by osteologists were developed, in part, from analysis of the remains of primarily white Americans killed in the Korean War (Chapter 18). The misconception that holds that continued curation of remains does not help living people has been addressed repeatedly. For example, Ubelaker's (1990) success in positively identifying Native American murder victims from the Pine Ridge Reservation was a direct result of his use of comparative collections of Native Americans. The work by Hughes et al. (in press) on differentiating prehistoric and historic Native Californian remains from more recent (and, therefore, possibly forensically significant) Native American remains and from remains of Latin American U.S. immigrants of indigenous ancestry is another example.

17.5.2 NAGPRA: Context, History, and Intent

In North America, some Native Americans argued during the 1970s and 1980s that because some contemporary Indian people have a descendant relationship with some skeletal remains housed in museum collections, the disposition of these remains should be controlled exclusively by modern Native Americans. Numerous state laws addressed the issue, and on November 16, 1990, President George H. W. Bush approved Public Law 101–601, the Native American Graves Protection and Repatriation Act (NAGPRA), an act of Congress that directed all museums and laboratories within the United States that receive federal funding (except the Smithsonian Institution) to inventory all human remains and associated funerary objects, to determine which among them can be linked ancestrally to existing federally recognized tribes, to consult with those affected tribes, and to follow the wishes of the tribes regarding those collections. Contrary to popular assumption, NAGPRA does not require reburial but rather gives control over the final disposition of remains to the most appropriate, federally recognized Native American or Hawaiian claimant. Groups are free to choose other options, such as long-term co-curation agreements or the transfer of objects to a tribal museum. The law attempted to set up a process of consultation whereupon these options, among others, might be considered.

The NAGPRA legislation came at a time when large numbers of American anthropologists were questioning the rationalist and empiricist roots of their discipline. As Zimmerman (1994: 65) notes, “Part of the rift between archaeologists and Native Americans stems from a fundamentally different conception of the past. To Native Americans, the idea that discovery is the only way to know the past is absurd.” Indeed, many contemporary anthropologists are sympathetic to “spiritually oriented,” culturally relativist, and even anti-scientific viewpoints.

The NAGPRA statute is based on something known as “cultural affiliation.” The law instructs institutions and potential claimants for “repatriation” to assess “cultural affiliation” by a “preponderance of the evidence,” where evidence is defined as “geographic, kinship, biological, archaeological, linguistic, folklore, oral tradition, historic, or other information or expert opinion.” How should the relative weights of these disparate lines of evidence be determined? Remains may only be returned after such cultural affiliation is established. Because of the vagueness of the NAGPRA legislation, some feared that it would subject institutional skeletal collections to potential claims by nondescendants who merely felt a spiritual connection to the remains.

Important case law was established by the Kennewick decision (Jelderks, 2002), which states that the law allows “tribes and individuals to protect and claim remains, graves, and cultural objects to which they have some relationship, but not allowing them to take custody of remains and cultural objects of persons and people to whom they are wholly unrelated” (2002: 27–28). Furthermore the subsequent Appeals Court decision (Gould, 2004) actually weighted the evidence

pertinent to the question of “cultural affiliation:” “We cannot give credence to an interpretation of NAGPRA advanced by the government and the Tribal Claimants that would apply its provisions to remains that have at most a tenuous, unknown, and unproven connection, asserted solely because of the geographical location of the find” (III: 41) and, “As the district court observed, 8340 to 9200 years between the life of Kennewick Man and the present is too long a time to bridge merely with evidence of oral traditions” (IV: 48). Another important part of the original Kennewick decision was the conclusion that: “NAGPRA does not mandate that every set of remains be awarded to some tribe, regardless of how attenuated the relationship may be” (Jelderks, 2002: 57). The 2010 regulatory ruling (see below) of the Department of Interior appears to run counter to these judicial opinions, and will almost certainly be challenged in the U.S. courts, particularly in light of the Appeals Court’s conclusion that “Congress’s purposes would not be served by requiring the transfer to modern American Indians of human remains that bear no relationship to them” (Gould, 2004, III: 32) and that “Congress enacted NAGPRA to give American Indians control over the remains of their genetic and cultural forebearers, not over the remains of people bearing no special and significant genetic or cultural relationship to some presently existing indigenous tribe, people, or culture” (Gould, 2004, III: 40).

The NAGPRA law is administered under the National Park Service of the Department of the Interior. The law, as written, does not require institutions to return all skeletal remains to Native Americans, just those remains which are “culturally affiliated.” It took more than 20 years after passage of the law for the first administrative regulations regarding the disposition of “culturally unidentifiable” human remains to be promulgated. The constitutionality and other aspects of these latest administrative regulations have not yet been tested in court (Seideman, 2009). To add to the uncertainty, some states are starting to pass repatriation laws of their own, such as California’s Assembly Bill 978 (“CalNAGPRA”).

The intent of Congress was to redress documented injustices and to provide a means by which aggrieved parties could obtain information about, and custodianship of, ancestral skeletal remains. The law is intentionally vague on how ancestral/descendant status is to be ascertained. Unfortunately, the implementation of the legislation has created bureaucracies that are now determined to extend their own existence by broadening the scope of the law. Even professional osteologists have jumped on this bandwagon, joyously proclaiming that “NAGPRA is forever!” (Rose et al., 1996). It was never the intent of the legislation to create permanent bureaucratic positions for archaeologists and physical anthropologists and their students at the federal, state, and local levels. Neither was it the intent of the law to pump funds into museums for out-of-work archaeologists to conduct further research with collections or to create positions for osteologists. However, these have been among the effects of the law’s implementation.

The law required that formal inventories of all remains be reported by 1995 (within five years of the NAGPRA legislation’s passage). That intent was subverted by blanket extensions of the reporting deadline to any institution that asked for one — awarded by the very government agency charged with regulating the law. In its slick, expensive, and politically correct *Common Ground* magazine, this very agency (the National Park Service’s Departmental Consulting Archaeologist and Archaeology and Ethnography Program) even published an article on a new Boy Scout merit badge for archaeology. In this example of political correctness run amok, one of the “ethical responsibilities” of Boy Scout counselors under this program was described as follows: The counselor “avoids all osteological research (in the field and in the lab)” (Skinner et al., 1998).

Human osteologists interested in continuing to curate and study human skeletal remains have been marginalized and demonized within their own intellectual settings and denied access to the very collections they once curated. Curators of human osteological collections have literally been locked out of collections by their own anthropologist colleagues and isolated from the NAGPRA consultation process with Native Americans. Meanwhile, untrained, formerly unemployed archaeologists have lined their pockets with federal and institutional money under the guise of conducting inventories of remains required by NAGPRA and under bogus extensions to the NAGPRA deadline granted by the National Park Service. No wonder this unforeseen and unfortunate turn of events has resulted in the widespread abandonment of skeletal biology by museums and other institutions of higher learning, and a parallel exodus of researchers and stu-

dents from human osteology. One unintended result has been the shift to osteological analyses in more recent cemeteries (Grauer, 1995; Saunders and Herring, 1998). And all this has come with virtually no legal challenges. Unfortunately, for reasons of economics and politics, many museums and other institutions have followed the National Park Service's lead in extending NAGPRA beyond the intent of Congress. With no one to regulate regulators who are bent on reburial, only a few institutions have had the courage to challenge the law in court.

Like any law, NAGPRA has been tested, and will continue to be tested, in the judicial system as claimants and institutions disagree over the ultimate disposition of remains. One of the most visible and important cases in the first 20 years of NAGPRA was that of the ancient remains found eroding out of the bank of the Columbia River in 1996 (Table 17.2).

17.5.3 The Future

A common misconception about the analysis of skeletal remains from archaeological contexts has to do with what constitutes adequate analysis. As Buikstra (1983) notes, the notion that continued curation of human skeletal collections is unimportant for scientific studies is simply false. She illustrates this by noting the amount of information that would have been lost if collections made before 1952 had been reburied after one year of analysis. Questions concerning demography and disease were not answerable or remained unasked just a few decades ago. Radiographic technology was inadequate to fully analyze bones. To rebury skeletal remains is to assume that no more questions will be asked and that no further developments in analytical techniques or instruments will occur. These are poor assumptions. A review by physical anthropologist C. Turner is worth citing as a summary of the foregoing considerations:

Scientific information about past peoples and their lifeways will be lost with reburial of human skeletons. This is because even a single skeletal series has more kinds of information than one worker can reliably extract, and because new techniques for skeletal research are constantly being devised. I explicitly assume that no living culture, religion, interest group, or biological population has any moral or legal right to the exclusive use or regulation of ancient human skeletons since all humans are members of a single species, and ancient skeletons are the remnants of unduplicable evolutionary events which all living and future peoples have the right to know about and understand. (Turner, 1986:1)

For science to be self-correcting, the scientific databases, whether they are composed of one discovery like Piltdown or a large series like that from Crow Creek, must continue to be available to the scientific community (for example, see Chapters 16 and 19 for a discussion of how inter- and intra-observer error in osteology can influence the results of any study). To rebury skeletons is to bury whatever future information they may yield as well as to deny future researchers the possibility of assessing the work of their predecessors. In short, it is to deny future generations the ability to know their past. Meighan puts it this way: "Reburying bones and artifacts is the equivalent of the historian burning documents after he has studied them" (1994: 68).

The imminent threat of reburial has led many osteologists to abandon the idea of keeping original specimens for posterity and instead to turn to alternatives. The compilation of the Standards volume (Buikstra and Ubelaker, 1994; see Section 16.12) represents such a desperate move. Some have rejoiced in the thought that the inventory and repatriation process has "increased the number of skeletons studied from about 30% to nearly 100%" (Rose et al., 1996), but both the numbers and the sentiment are poorly based. Even the "removing books from a library" analogy breaks down with original osteological specimens. These remains defy accurate and adequate copying. The bones comprise not just external morphology but internal form and chemical composition as well. No cast, no image, no measurement, no description can adequately record the information potential held by an original bone, and to suggest that this is not the case is to take false comfort in the face of permanent destruction. One thing that sets science apart from other areas of human endeavor is the character of self-correction. As new techniques and new observers allow evidence to be examined in new ways, old errors can be corrected and the truth can be better approximated.

Sidebar: The case of the Kennewick skeleton (the Ancient One)

One of the first major legal challenges to NAGPRA was the case of the skeleton found in Kennewick, in eastern Washington state, along the Columbia River. Before discussing the outcome of the case, it may be helpful to review a timeline of some of the more important events and developments in the case:

July 28, 1996: Two students (Will Thomas and David Deacy) were wading in the shallow water along the Columbia River near Kennewick, Washington, after watching the annual hydroplane races held there. About ten feet from shore, they noticed a human cranium in the water.

July 28, 1996: Thomas and Deacy notify the police, who in turn call Coroner Floyd Johnson to the scene.

July 28, 1996: Coroner Johnson contacts archaeologist James Chatters and asks him to report to the scene.

July 28, 1996: The police, coroner Johnson, and Chatters recover much of the skeleton from the river.

July 28, 1996: Based on the completeness of the skeleton, the good condition of the remains, the lack of definitive Native American characteristics, the presence of Caucasoid characteristics, the presence of 19th-Century artifacts, and the proximity to an early homestead site, Chatters tells the coroner he suspects the bones are from an early European-American settler.

July 28, 1996: Upon seeing a healed injury around a gray stone object embedded in the ilium, Chatters starts to question his initial suspicions and requests radiographic analysis.

July 29, 1996: The U.S. Army Corps of Engineers (COE), who have jurisdiction over—and own—all navigable waterways in the U.S., is notified of the discovery.

July 29, 1996: The bones are x-rayed and CT-scanned at Kennewick General Hospital. The gray stone object turns out to be the 20 × 54 mm base of a leaf-shaped, serrated Cascade point that was typical of Southern Columbian Plateau assemblages between 8500 B.P. and 4500 B.P.

July 29, 1996: The coroner orders radiocarbon and DNA analyses to be performed on the remains.

July 29 – August 29, 1996: Under an ARPA permit, Chatters finds additional bones.

July 29, 1996: News of the discovery is made public when the story (“Skull Found on Shore of Columbia”) was published in the Tri-City Herald, a local newspaper in eastern Washington state.

July 30, 1996: Upon learning of the news story, a representative of the Umatilla tribe contacts authorities about the discovery.

August 5, 1996: A fragment of metacarpal is sent to the University of California, Riverside, for destructive AMS ¹⁴C testing.

August 26, 1996: A tentative date of 8,400 B.P. is returned for the fragment.

August 31, 1996: Douglas Owsley, head of Physical Anthropology at the Smithsonian, arranges for Chatters to bring the remains to the Smithsonian for further study.

September 9, 1996: A coalition of five Native American tribes from Eastern Washington (the Umatilla, the Nez Percé, the Yakima, the Wanapum, and the Colville Confederation) claims the remains under NAGPRA.

September 10, 1996: The remains are seized by COE shortly before they could be transported to the Smithsonian. COE orders an immediate halt to DNA testing being done on a portion of the sample taken for ¹⁴C testing.

September 17, 1996: COE accepts the tribal claim and publishes a “Notice of Intent to Repatriate” as required by NAGPRA.

October 16, 1996: A group of eight anthropologists (Robson Bonnichsen, Douglas Owsley, Dennis Stanford, D. Gentry Steele, Richard Jantz, George Gill, C. Loring Brace, and C. Vance Haynes, Jr.) files suit in U.S. Magistrate Court in Portland, Oregon, to prevent the repatriation of the remains, and to allow further study of the remains.

October 24, 1996: The U.S. Magistrate Court case begins.

December 1, 1997: Further research is conducted at the Kennewick site.

March 24, 1998: COE enters into an agreement with the U.S. Department of the Interior (DOI) for the DOI to determine whether the remains are “Native American” under NAGPRA, and to determine the proper disposition of the remains.

April 1, 1998: COE gives the remains to the DOI.

Table 17.2 A timeline of events in the case of the Kennewick skeleton (the Ancient One) and the law.

April 6, 1998: Despite the site's status as a registered national landmark, despite the bipartisan passage of a federal site preservation bill and against the advice of COE's own archaeologist, COE "stabilizes" the Kennewick site by dumping 500 tons of rock and gravel on the site by helicopter, tops it with 300 tons of soil and logs, and then plants 3700 fast-growing trees on top.

May 12, 1998: The first of six consultation meetings is convened by the DOI to discuss repatriation of the remains with representatives of five tribes.

June 17, 1998: Both sides in the case begin out-of-court mediation.

September 3, 1998: Pending resolution of the legal dispute, U.S. Magistrate John Jelderks orders the remains moved to the Burke Museum at the University of Washington, a neutral location that both tribes and scientists agree upon.

October 29, 1998: The remains are transferred to the Burke Museum pending a final decision.

February 27, 1999: A team of government-selected anthropologists present their preliminary findings (using only nondestructive analyses).

July 27, 1999: The National Park Service (NPS), against the wishes of the tribes, announces that it will conduct additional destructive analyses to confirm the antiquity of the bones.

September 8–9, 1999: NPS scientists select a bone sample to use for the destructive dating analysis.

October 15, 1999: A DOI report concludes that the remains are more closely related to the Ainu of northern Japan than they are to the tribes claiming the remains (or any Native American tribe).

January 11, 2000: The DOI determines that the remains are "Native American," according to DOI's interpretation of the NAGPRA definition.

January 12, 2000: Radiocarbon results are announced, confirming an age for the remains of about 9,300 years B.P.

September 25, 2000: Secretary of the Interior Bruce Babbitt announces that the remains should be given to the tribal coalition based on their claim of ancestry for the remains.

August 30, 2002: Judge Jelderks rules that the remains should not be turned over to the tribal coalition for reburial, but should instead be made available to a team of scientists for study.

October 28, 2002: Four of the tribes in the coalition (the Yakima, Umatilla, Colville, and Nez Perce of Idaho) file notice to appeal the ruling.

February 4, 2004: The 9th Circuit Court of Appeals rejects the appeal from the tribes, and finds that the Kennewick Man skeleton is not Native American according to the NAGPRA definition, thus upholding the District Court's Opinion in full, and allowing the scientific community to study the remains.

April 19, 2004: The 9th Circuit Court of Appeals denies the request for a rehearing *en banc* of the Bonnichsen decision.

August 17, 2004: Judge Jelderks rules that the tribes have no right to further participation in this litigation. This order validates the scientists' belief that the tribes' participation in the proceedings ended with the 9th Circuit Appeals Court decision.

September 9, 2004: The tribes file a new motion to intervene in the case.

March 7, 2005: Senator John McCain introduces a measure to Congress that would amend "the Native American Graves Protection and Repatriation Act to provide that 'Native American' refers to a member of a tribe, a people, or a culture that is *or was* indigenous to the United States." The measure was not passed.

Conclusion

When are remains and artifacts from the distant past relevant to the history of one or only a few cultural groups, and when do these remains and artifacts become part of the heritage of all humanity? This is a difficult question that may never be fully answered. In the case of the Kennewick remains, however, the U.S. justice system has given us its answer:

Human remains that are 8,340 to 9,200 years old and that bear only incidental genetic resemblance to modern-day American Indians, along with incidental genetic resemblance to other peoples, cannot be said to be the Indians' "ancestors" within Congress's meaning. (Gould, 2004)

The remains of the Kennewick individual are housed in the Burke Museum. All decisions concerning access to the remains continue to be made by COE, as the landowners of the property where the remains were found.

Reproducibility of observation is an essential ingredient of science. This, of course, is lost when skeletal remains are destroyed by reburial. Long-term curation of skeletal remains has repeatedly been demonstrated to be essential to forensic, archaeological, and paleontological investigations. The very understanding of human diversity rests on this continued curation (Tobias, 1991).

Museums are the institutions most often entrusted to act as repositories for human skeletal remains. Yet many museums have deaccessioned skeletal collections in the face of vocal activists demanding reburial, arguably violating the public trust in the process (after all, one of the missions of any museum is the preservation of its collections for posterity). Many reburials have been precipitous, undertaken even before legislation was enacted or tested in court. Reburial is often seen on both institutional and personal levels as an expedient, politically safe, cheap, and therefore easy way for the public and politicians to assuage imagined guilt, and for institutional administrators to escape “negative publicity.” Stanford University, Central Michigan University, the Detroit Institute of Arts, the American Museum of Natural History, the Field Museum, the Cranbrook Institute of Science, and the University of California are just a few of the institutions that have returned culturally unaffiliated and/or unidentifiable remains and burial objects (a practice called “dispositioning” rather than repatriation) to indigenous groups who may or may not be related to the remains in question. Whatever the intent, the costs to scientific knowledge as a result of politically correct reburials are high, and the effects are permanent.

Zimmerman (1997: 105) has argued, “Quite simply, anthropologists must learn to share control over the past.” Surely this is a provocative perspective that contends that the past can be “controlled” by anybody — isn’t the past . . . past? Most of us reckon that the past happened, that there is some evidence of it having happened, and that we should do our best to accurately interpret that evidence and thereby understand what happened. However, Zimmerman’s adoption of the cultural relativist position (or ethic) is widely shared among practicing anthropologists and reflects the ethical dilemmas facing anthropologists of all subdisciplines (Meighan, 1992). How can scientists accommodate explicitly religious viewpoints at odds with the evidence they study? Meighan (1992) and Weiss (2008) both argue that the destruction of skeletal collections by native creationists represents a conflict between religion and science, and when scientists “compromise” in this conflict, by definition, they abandon science itself, with all of the rights and duties inherent to this system of knowing (Moore, 1999).

Skeletons in museum collections represent the remains of only the few individuals who, largely by chance of burial and discovery, have managed to elude the ravages of time and to open windows on the distant past (Figure 17.2). These bones have the potential to inform all people about the past. When reburied, they will join the vast majority of ancestors who have gone missing without a trace. Who looks out for the unborn great-great-grandchildren of contemporary Native Americans or Australians? Who will tell the generations to come that during the late 20th century, some of their relatives decided to deprive them of the best means of knowing the past? The Iroquois had a tradition to guide wise people through troubling times, if wise people were prepared to follow it. They urged wise people to consider the impact of any decision on the seventh future (unborn) generation. The wholesale reburial of archaeological skeletal collections, as advocated and precipitated by activists, politicians, and museums during the last decades of the 20th Century and the first decades of the 21st Century, will most likely be condemned by unborn generations of all people, long before seven generations have passed.

Given the issues involved, what steps can the practicing osteologist or archaeologist take to ensure that osteological science is pursued with scientific vigor and respect for common ethical values? First and foremost, all skeletal remains should be treated with respect and dignity in their excavation, analysis, and curation. Second, potential descendants should be fully informed about any steps being contemplated or undertaken that involve human remains. As a general rule, control of osteological material should be invested in parties who can show direct lineal affinity to the remains in question. In some cases this descent is difficult or impossible to determine accurately. When excavation, study, and curation can be shown to violate traditional values and beliefs of living descendants at the tribal or family level, these values and beliefs should be honored. Most often this occurs in historical archaeological contexts. Prehistoric remains are

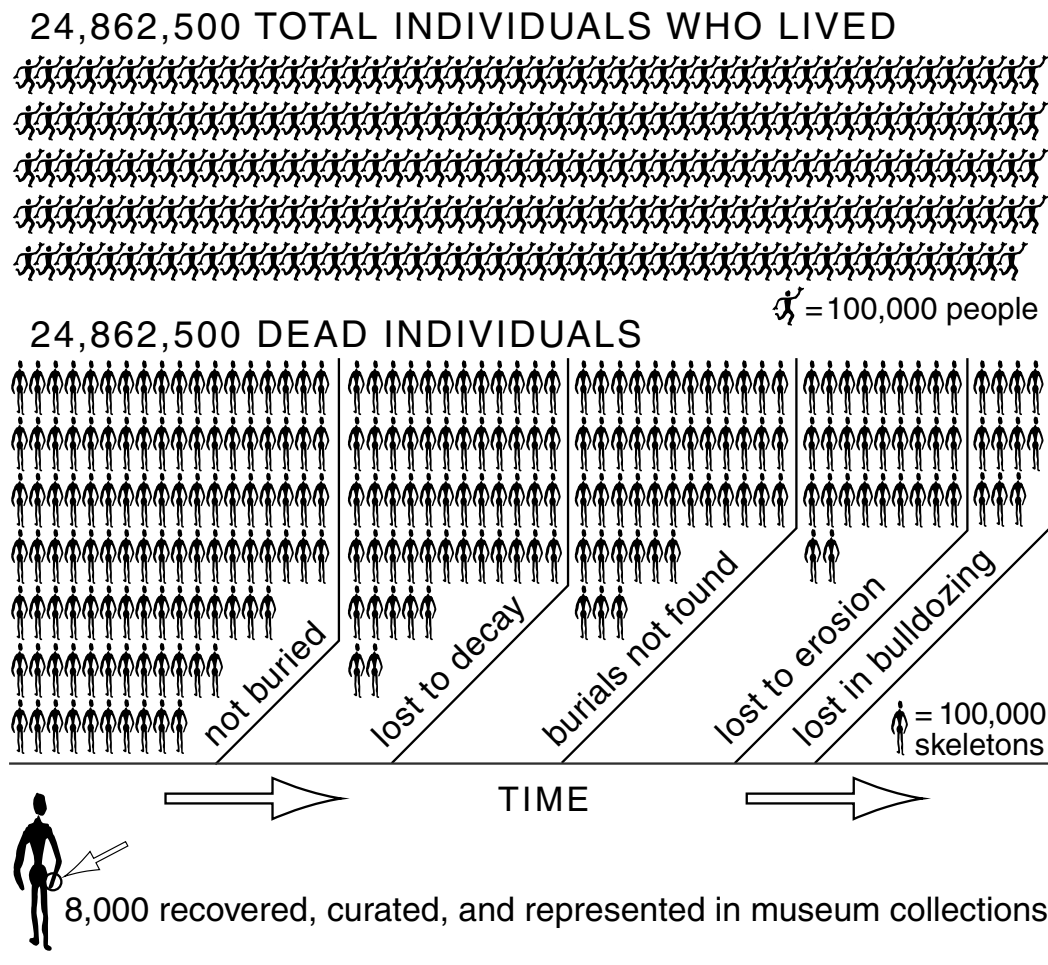


Figure 17.2 The ravages of time. It is often forgotten that the skeletons comprising modern museum collections represent only tiny fractions of once-living populations. These skeletons, ambassadors from the past, represent those few who have miraculously escaped the ravages of erosion, burial, decay, and modern development to reach us and inform us about prehistory. For example, at the time of this writing, U.C. Berkeley's Hearst Museum of Anthropology houses around 8,000 mostly partial prehistoric skeletons representing some 9,000 years of human occupation of the state of California. This is the world's most important collection of human skeletal remains documenting populations of people who subsisted through hunting and gathering rather than agriculture. These archaeologically derived skeletal remains of early Californians have yielded, and continue to yield, an amazing record of human accomplishment, diversification, and adaptation.

This book makes it clear that a great deal of information would be lost if these remains were to be reburied. But what fraction of Native Californians does the Hearst collection really represent? The best estimate for the California Native American population at European contact is 221,000 people (Ubelaker, 1992a). If we make the most conservative estimates on length of occupation (9,000 years), average lifespan (40 years; average life expectancy did not reach 40 years in most world populations until the 19th century), and the most simple, linear estimates of population size increase, a total of about 25 million people died in prehistoric California over 9,000 years. Therefore, even the largest museum skeletal collection in the state comprises a mere three one-hundredths of one percent (0.00032) of the total number (24,862,500) of Native Californians deceased since 7,000 B.C. This tiny, miraculously preserved set of skeletal remains is all that remains to inform us about all the other individuals whose remains were lost to the ravages of time. This precious heritage is what lies in the balance of current legal and ethical debates regarding reburial.

usually more ambiguous in their relationship to modern groups, and the older the specimen, the less likely it is that direct, exclusive descent to any living person is demonstrable. Even when it is, however, all parties should be informed of the important information that may become available as a result of analysis of the skeletal remains. In any case, the results of studies should be presented to the descendants in a timely manner, and the conclusions of (as well as any real or potential benefits from) the research should be clearly stated.

The debate concerning excavation, study, and reburial of human skeletal remains will continue to be heard in the courts, as was the Kennewick case (Gould, 2004). One hopes that the ethical concerns of all the various sides in the debate are reflected in the laws that will continue to be written and tested in such settings. Communication, however, is most effective *outside* the legal system. Professional archaeologists and osteologists bear a great responsibility in education. All groups involved in the debate should be engaged in an ongoing dialogue — with people talking *with* each other instead of *at* or *past* each other. These issues will only be defused through public



Figure 17.3 Vandalism of osteological remains in an archaeological context. (*Above and opposite*): evidence of looting is seen in these two photographs taken at the site of Nuvakwewtaqa, a large (1,000+ room) pueblo in central Arizona occupied between A.D. 1280 and 1425. Vandals have haphazardly discarded the human skeletal remains encountered in their search for grave goods, damaging the bones and forever losing their context. The nonrenewable archaeological record is rapidly disappearing due to such plunder. Photos courtesy of Peter Pilles and the Coconino National Forest.

education and through the long-overdue graduate-level education and participation of Native Americans and Aboriginal Australians in physical anthropology and osteology.

Any group of people, from the smallest family to the entire human species, is best equipped to deal with its present and future only when it fully understands and appreciates its heritage. Prehistoric research, including osteological study, is one way that heritage can be revealed. The great tragedy in the debate over skeletal remains from archaeological contexts is that the issue has sometimes pitted archaeologists against descendants and relatives of the people they wish to study. This has occurred at a time when the very archaeological resources in North America and Australia (which both parties seek to preserve) are disappearing at an unprecedented rate at the hands of developers and looters (Figure 17.3). In the face of this catastrophic and irreversible destruction of the past's only tangible record, the reburial issue constitutes a costly diversion for all parties. The scientific community and native groups need to redirect their energies in a concerted effort to save and protect the heritage of the past before it disappears.



Figure 17.3 (*continued*)

Phillip Walker (1947–2009), osteologist and outspoken proponent of cooperation and collaboration between Native Americans and physical anthropologists, as well as the museums that hold the skeletal remains that both parties seek so vehemently to protect, summed up the current situation and future prospects:

A counterproductive aspect of this acrimonious debate is the tendency for the stakeholders (political leaders, government bureaucrats, physical anthropologists, archaeologists, museum curators, tribal councils, traditional spiritual leaders, and so on) to resort to divisive “us versus them,” “right versus wrong” rhetoric that oversimplifies the diversity of views present in the scientific, museum, and indigenous communities. This is unfortunate because, in the United States at least, considerable progress has been made toward finding a common ground that balances scientific concerns with those of indigenous people. Much of this has been accomplished through the attempts of museums and Native American tribes to comply with the legal requirements imposed by the Native American Graves Protection Act (NAGPRA). Although NAGPRA is a flawed piece of legislation that can be criticized from a number of perspectives (Goldman, 1999; Rose et al., 1996; Walker, 1998), it nevertheless has provided an impetus for increased communication between Native Americans and Museums. In several instances, this has opened the door to innovative compromises that address the concerns of both scientific and Native American groups. (2004: 13–14)

17.6 Ethics in Human Paleontology

As a general rule, entropy is more and more effective the longer it has to operate. As a result, there is a tendency for the fossilized remains of humans and human ancestors to be rare compared to the skeletons of people who have died during the last several thousand years. There are few places on earth where conditions have been conducive to the deep-time preservation of hominid skeletal remains. Such places must have afforded protection from the nearly ubiquitous presence of continual erosion. Hence, sediments accumulated in protected places such as caves or lake basins are the usual discovery sites of fossil hominids.

Ever since fossil hominids were found in the late 1800s, they have received an inordinate amount of scientific attention and public curiosity. In some ways, it was almost as if these fossilized remains of distant relatives became icons. A good deal of nationalistic fervor was devoted to the recovery of fossils in various parts of the world, and it has been argued that Piltdown’s status as “the earliest Englishman” played a role in blinding the leading scientists of the day to the obvious fraud that the “find” represented. The Taung cranium is a cultural and national icon in South Africa, the Neanderthal skeleton is prominently displayed in Germany, and Ethiopia is known throughout the world as the home of “Lucy.” Today, hominid fossils are viewed as important parts of the cultural heritage of many developing countries.

In many parts of the world where the most important hominid fossils are being found, the academic and scientific infrastructures remain poorly developed. As a result, fossils have often been exported to the nations that had “colonized” these lands, to be studied by foreign experts, and often displayed and curated indefinitely in foreign museums and universities. The demise of colonial rule across Africa and Asia ended this situation, but attention to the development of facilities and personnel to support ongoing human paleontological research in these areas was slow in coming. Today, particularly in Africa, a first generation of indigenous scholars is developing the necessary platform from which to conduct world-class research into human paleontology. There are continued instances of exploitative relationships and hit-and-run fossil hunting by foreigners from the developed world, but there are also several models of international collaboration between local and foreign scholars, in both Africa and Asia.

It is essential for osteologists interested in conducting laboratory and field research in foreign countries to make early and open contact with the governmental administrators and local scholars in any country in which they intend to work. Research must go hand-in-hand with development in these situations, ensuring meaningful, uninterrupted progress and productive science.

17.7 Relevant Codes of Ethics and Ethical Statements

Many organizations, professional associations, and committees with members who work in the fields of osteology, archaeology, and forensic anthropology have drafted codes of ethics or ethical statements as guidance for their members and for others who work with osteological material. The entire texts of these codes and statements are too long to include here; instead, the relevant sections of just one code—that of the American Association of Physical Anthropologists—are presented as an example:

17.7.1 American Association of Physical Anthropologists: Code of Ethics (2003)

A. Responsibility to people . . . with whom anthropological researchers work and whose lives and cultures they study.

- 1. Anthropological researchers have primary ethical obligations to the people...they study and to the people with whom they work. These obligations can supersede the goal of seeking new knowledge, and can lead to decisions not to undertake or to discontinue a research project when the primary obligation conflicts with other responsibilities, such as those owed to sponsors or clients. These ethical obligations include:*

...

- To work for the long-term conservation of the archaeological, fossil, and historical records*
- To consult actively with the affected individuals or group(s), with the goal of establishing a working relationship that can be beneficial to all parties involved*

...

- 4. Anthropological researchers should obtain in advance the informed consent of persons...owning or controlling access to material being studied, or otherwise identified as having interests which might be impacted by the research. It is understood that the degree and breadth of informed consent required will depend on the nature of the project and may be affected by requirements of other codes, laws, and ethics of the country or community in which the research is pursued. Further, it is understood that the informed consent process is dynamic and continuous; the process should be initiated in the project design and continue through implementation by way of dialogue and negotiation with those studied.... Informed consent, for the purposes of this code, does not necessarily imply or require a particular written or signed form. It is the quality of the consent, not the format, that is relevant.*

...

- 6. While anthropologists may gain personally from their work, they must not exploit individuals, groups, or cultural or biological materials. They should recognize their debt to the societies in which they work and their obligation to reciprocate with people studied in appropriate ways.*

B. Responsibility to scholarship and science

- 1. Anthropological researchers must expect to encounter ethical dilemmas at every stage of their work, and must make good-faith efforts to identify potential ethical claims and conflicts in advance when preparing proposals and as projects proceed.*
- 2. Anthropological researchers bear responsibility for the integrity and reputation of their discipline, of scholarship, and of science. Thus, anthropological researchers are subject to the general moral rules of scientific and scholarly conduct: they should not deceive or knowingly misrepresent (i.e., fabricate evidence, falsify, plagiarize), or attempt to prevent reporting of misconduct, or obstruct the scientific/scholarly research of others.*
- 3. Anthropological researchers should do all they can to preserve opportunities for future fieldworkers to follow them to the field.*
- 4. Anthropological researchers should utilize the results of their work in an appropriate fashion, and whenever possible disseminate their findings to the scientific and scholarly community.*
- 5. Anthropological researchers should seriously consider all reasonable requests for access to their*

data and other research materials for purposes of research. They should also make every effort to ensure preservation of their...data for use by posterity.

C. *Responsibility to the public*

1. *Anthropological researchers should make the results of their research appropriately available to sponsors, students, decision makers, and other non-anthropologists. In so doing, they must be truthful; they are not only responsible for the factual content of their statements but also must consider carefully the social and political implications of the information they disseminate. They must do everything in their power to insure that such information is well understood, properly contextualized, and responsibly utilized. They should make clear the empirical bases upon which their reports stand, be candid about their qualifications and philosophical or political biases, and recognize and make clear the limits of anthropological expertise. At the same time, they must be alert to possible harm their information may cause people with whom they work or colleagues.*

Suggested Further Readings

Bray, T. (1995) Repatriation: A clash of world views. *AnthroNotes: National Museum of Natural History Bulletin for Teachers* 17.

A detailed outline of the history of repatriation in the United States, repatriation legislation, Native American and scientific concerns, and repatriation outreach.

Committee on Science, Engineering, and Public Policy (U.S.), National Academy of Sciences (U.S.), National Academy of Engineering, and Institute of Medicine (U.S.). (2009) *On being a scientist: A guide to responsible conduct in research* (3rd ed.). Washington, DC: National Academy Press. 82 pp.

This guide describes a code of conduct for researchers and explores scientific ethical concerns, such as data treatment, error, reporting, safety, authorship, animal subjects, and human participants.

Grauer, A. L. (1995) *Bodies of evidence: Reconstructing history through skeletal analysis*. New York, NY: Wiley-Liss. 247 pp.

An edited volume concerned with the analysis of skeletal remains from historic cemeteries.

Hastings, D. and Sampson, D. (1997) Q: Should scientists be allowed to 'study' the skeletons of ancient American Indians? *Insight on the News* 13:24–27.

An exploration of the issues raised by the Kennewick skeleton and related NAGPRA legislation.

Johnson, G. (2002) Tradition, authority and the Native American Graves Protection and Repatriation Act. *Religion* 32:355–381.

This paper reviews NAGPRA legislation and explores Native American appeals to the “traditional” in establishing claims to remains.

Jones, D. G., and Harris, R. J. (1998) Archaeological human remains. *Current Anthropology* 39:253–264.

A global view of the issues surrounding reburial, by anatomists.

Krogman, W. M., and İşcan, M. Y. (1986) *The human skeleton in forensic medicine* (2nd ed.). Springfield, IL: C. C. Thomas. 551 pp.

A comprehensive look at forensic applications in osteology.

Larsen, C. S., and Walker, P. L. (2005) The ethics of bioarchaeology. In: T. R. Turner (Ed.) *Biological anthropology and ethics: From repatriation to genetic identity*. Pp. 111–119. Albany, NY: State University of New York Press.

This chapter details ethical motivations and responsibilities for research on human skeletal remains.

Layton, R. (Ed.) (1994) *Conflict in the archaeology of living traditions* (2nd ed.). New York, NY: Routledge. 276 pp.

An edited volume with a wide range but a skewed collection of contributions that address ethics as it relates to archaeology, particularly the reburial issue.

Lynott, M. J. (1997) Ethical principles and archaeological practice: development of an ethics policy. *American Antiquity* 62:589–599.

A revised description of clear ethical guidelines for bioarchaeologists developed around 8 core principles.

Mihesuah, D. A. (1996) American Indians, anthropologists, pothunters, and repatriation: Ethical, religious, and political differences. *American Indian Quarterly* 20:229–237.

This paper lists and explores Native American positions on repatriation, NAGPRA legislation, and notions of “desecration.”

N.A.P.A. (1988) *Ethical guidelines for practitioners*. National Association for the Practice of Anthropology.

Ethical guidelines for practitioners in all anthropological sub-disciplines.

Ochani, S. C., Ahmad, A. M., and Malik, F. R. (2004) Modern grave robbers. *Student BMJ* 12:466–467.

This article describes the theft of human remains from grave sites for use in medical school study.

Ousley, S. D., Billeck, W. T., and Hollinger, R. E. (2005) Federal repatriation legislation and the role of physical anthropology in repatriation. *Yearbook of Physical Anthropology* 41:2–32.

A thoughtful argument for the unique and important role physical anthropologists play in the repatriation process.

Richman, J. R. and Forsyth M. P. (Eds.) (2004) *Legal perspectives on cultural resources*. Walnut Creek, CA: Altamira Press. 284 pp.

This volume highlights the legal perspective of cultural affiliation, repatriation, and precedence.

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A book that provides a wide-ranging examination of ethical issues in human osteology, and comes down firmly on the side of science, pursuing the implications of the book's first sentence: "As scientists, it is our ethical obligation to study and try to explain the world around us. NAGPRA and other repatriation laws obstruct the process of scientific endeavors."